

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently Amended) A control circuit for relay-operated gas valves; comprising:
with a relay for opening and/or closing a gas valve; and with
a failsafe circuit for the relay, the failsafe circuit including:
a charging circuit having at least one capacitor including a charging capacitor;
a drive circuit coupled to the relay having an input transistor, a base of the input
transistor being electrically connected to the charging capacitor of the
charging circuit; and
a control device being connectable to an input of the failsafe circuit, and the failsafe
circuit only supplying the relay with a voltage and/or current necessary for
opening the gas valve when an input signal having at least two different frequency
signals succeeding each other in time is supplied at the input of the failsafe circuit
by the control device;
wherein, upon the application of a first frequency signal at the input of the failsafe circuit,
the charging circuit charges the charging capacitor, and upon the application of a
second frequency signal at the input of the failsafe circuit, the second frequency
signal having a different frequency than the first frequency signal, the charging
circuit does not charge the charging capacitor, and the charging capacitor when
sufficiently charged, provides a bias to the input transistor of the drive circuit that
enable the input transistor of the drive circuit;
wherein the drive circuit, upon the application of the second frequency signal at the input
of the failsafe circuit, supplies the relay with a voltage and/or current necessary
for opening the gas valve but only if the charging capacitor is sufficiently charged
by the first frequency signal to provide the necessary bias to the input transistor of

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the drive circuit to enable the input transistor of the drive circuit to pass the second frequency signal.

2. (Canceled)
3. (Currently Amended) The control circuit of claim [[2]] 1, wherein the charging circuit charges the at least one of the one or more charging capacitor exclusively upon the application presencee of the first frequency signal at the input of the failsafe circuit in the input signal.
4. (Currently Amended) The control circuit of claim [[2]] 1, wherein the charging circuit, upon the application or presencee of a second frequency signal at the input of the failsafe circuit in the input signal, the second frequency signal having a lower frequency than the first frequency signal, does not charge the at least one of the one or more charging capacitor of the charging circuit.
5. – 7. (Canceled)
8. (Currently Amended) The control circuit of claim [[7]] 1, wherein the input transistor of the drive circuit has a collector terminal, an emitter terminal and a base terminal, the [[a]] collector terminal of the input first transistor is connected via an interposed resistor to a supply voltage, and that an the emitter terminal of the input first transistor is connected to a ground potential.
9. (Currently Amended) The control circuit of claim 8, wherein the drive circuit further includes a second transistor having a collector terminal, an emitter terminal and a base terminal, the wherein a base terminal of the second transistor receives the second frequency that is presented at the input of the failsafe circuit, is switched with the first

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transistor in such a manner that a the collector terminal of the second transistor is connected to the base of the input first transistor, and an the emitter terminal of the second transistor is connected to a ground potential.

10. (Cancel)
11. (Currently Amended) The control circuit of claim [[6]] 1, wherein the drive circuit further includes two Darlington transistor circuits connected together at a drive node, a diode connected in parallel to the relay, and a series connected resistor and capacitor connected between the drive node and the relay and, making contact between the two Darlington transistor circuits, a series connection of a resistor and a capacitor.
12. (Currently Amended) The control circuit of claim 1, wherein the at least two different frequency signals include a first frequency signal and a second frequency signal, and wherein the first frequency signal has a frequency of around 1000 kHz and the second frequency signal has a frequency of around 5 kHz, the two frequency signals being applied at in the input of the failsafe circuit input signal succeeding one another in time in such a manner that in each case a time span of around 40 ms with the first frequency signal of around 1000 kHz is followed by a time span of around 80 ms with the second frequency signal of around 5 kHz.
13. (Currently Amended) The control circuit of claim 1, wherein the failsafe circuit only supplies the relay with a voltage and/or current necessary for opening the gas valve if the two different frequency signals are applied succeeding each other in time by in accordance with a predetermined definition in the input signal.
14. (Currently Amended) The control circuit of claim 1, wherein the at least two different frequency signals include a first frequency signal and a second frequency signal, and

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wherein the first frequency signal and the second frequency signal are applied successively at the input of the failsafe circuit in the input signal in such a way that a first time period with the first frequency signal is respectively followed by a second time period with the second frequency signal.

15. (Currently Amended) A fail-safe circuit for controlling a relay that controls the opening of a gas valve, the fail-safe circuit comprising:
at least one input that can be connected to a gas valve controller;
at least one output that can be connected to the relay;
a charging circuit having a charging capacitor; and
a drive circuit having at least one transistor and a drive capacitor;
wherein the fail-safe circuit is configured to only supply an output signal to the relay to open the gas valve via the at least one output of the fail safe circuit if/when the gas valve controller provides an input signal having at least a first frequency signal and a two different second frequency signals to the at least one input of the fail-safe circuit;
wherein, during the period of the first frequency signal, the charging capacitor charges, and the drive capacitor discharges to provide a relay current to the relay; and
further wherein, during the period of the second frequency signal, the charging capacitor discharges into the base of the at least one transistor of the drive circuit, which causes the drive circuit to charge the drive capacitor and to provide a relay current to the relay.
16. (Currently Amended) The fail-safe circuit of claim 15 wherein the fail-safe circuit is configured to only supply the relay current to an output signal to the relay to open the gas valve via the at least one output of the fail safe circuit when the gas valve controller provides an the input signal such that the that includes a first frequency signal that is coordinated in time with [[a]] the second frequency signal.

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17. (Currently Amended) The fail-safe circuit of claim 15 wherein the fail-safe circuit is configured to only supply the relay current to an output signal to the relay to open the gas valve via the at least one output of the fail safe circuit if/when the gas valve controller provides an input signal that includes [[a]] the first frequency signal for a first period of time followed by ~~a~~ the second frequency signal for a second period of time.
18. (Currently Amended) The fail-safe circuit of claim 17 wherein the fail-safe circuit is configured to only supply the relay current to an output signal to the relay to open the gas valve via the at least one output of the fail safe circuit if/when the first frequency signal is not supplied during the second period of time, and the second frequency signal is not supplied during the first period of time.
19. (Previously Presented) A method for controlling a relay that controls the opening of a gas valve, the method comprising the steps of:
determining if a gas valve controller is currently providing a valid gas valve control signal;
providing a signal to the relay in accordance with the gas valve control signal if the determining step determines that the gas valve controller is currently providing a valid gas valve control signal; and
closing the gas valve via the relay if the determining step determines that the gas valve controller is not currently providing a valid gas valve control signal.
20. (Previously Presented) The method of claim 19 wherein the determining step includes determining if the gas valve controller is providing an input signal that includes a first frequency signal for a first period of time followed by a second frequency signal for a second period of time.

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21. (Currently Amended) The method of claim 20 further comprising the steps of:
charging a charging capacitor of a charging circuit during the first period of time when
the input signal includes the first frequency signal; and
charging a drive capacitor of a drive circuit during the second period of time when the
input signal includes the second frequency signal, wherein a charged voltage
across the drive capacitor of the driving circuit provides a current to the relay to
maintain the relay in its current state when the charging capacitor of the charging
circuit is charging, and wherein a charged voltage across the charging capacitor
enables the drive circuit to charge the drive capacitor of the drive circuit during
the second period of time.